

FEB 27 2002

Docket No. 23623-7060

**Certificate of Mailing/Transmission (37 C.F.R. § 1.8(a))**

[X] Pursuant to 37 C.F.R. § 1.8, I hereby certify that this paper and all enclosures are being deposited with the United States Postal Service as first class mail on the date indicated below in an envelope addressed to the Commissioner for Patents and Trademarks, Washington D.C. 20231

Dated: February 11, 2002

Name of Person Certifying: Jocelyn L. Lee  
Printed Name: Jocelyn L. Lee

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Volker SCHELLENBERGER, et al. Assignee: Genencor International, Inc.  
Filing Date: October 10, 2001 Examiner: Not Yet Assigned  
Serial No.: 09/975,139 Group Art Unit: 1645  
Title: INFORMATION RICH LIBRARIES

**BOX SEQUENCE**

Commissioner for Patents and Trademarks  
Washington, D.C. 20231

**STATEMENT REGARDING SEQUENCE LISTING UNDER 37 C.F.R. §§ 1.821-1.825**

Dear Sir:

The Applicants hereby declare that the content of the computer-readable copy of the Sequence Listing furnished herewith is the same as the written copy of the Sequence Listing.

Date: February 11, 2002.

Respectfully submitted,

By:

David Maher

David W. Maher  
Registration No. 40,077

McCutchen, Doyle, Brown & Enersen, LLP  
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## 23623-7060 Seq Listing

## SEQUENCE LISTING

<110> Genencor International, Inc.  
Schellenberger, Volker  
Naki, Donald  
Morrison, Thomas B.

FEB 27 2002

<120> INFORMATION RICH LIBRARIES

<130> 23623-7060

<140> US 09/975,139

<141> 2001-10-10

<150> US 60/239,476

<151> 2000-10-10

<160> 10

<170> FastSEQ for windows version 4.0

<210> 1

<211> 269

<212> PRT

<213> Bacillus lentinus

<220>

<223> Savinase - subtilisin protease

<400> 1

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20 25 30  
Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser  
35 40 45  
Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr  
50 55 60  
His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu  
65 70 75 80  
Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala  
85 90 95  
Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala  
100 105 110  
Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser  
115 120 125  
Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly  
130 135 140  
Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser  
145 150 155 160  
Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln  
165 170 175  
Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile  
180 185 190  
Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr  
195 200 205  
Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Ala  
210 215 220  
Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile  
225 230 235 240  
Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu

## 23623-7060 Seq Listing

245	250	255
Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg		
260	265	

<210> 2  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Artificial subtilisin reference protein sequence (Fig. 1)

<400> 2  
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 1                   5                   10                   15

<210> 3  
 <211> 382  
 <212> PRT  
 <213> Aeromonas sobria

<220>  
 <223> AmpC protein

<400> 3  
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 Leu Ala Pro Leu Ser Leu Ala Ala Pro Val Asp Pro Leu Lys Ala Val  
 20                   25                   30  
 Val Asp Asp Ala Ile Arg Pro Val Leu Lys Gln His Arg Ile Pro Gly  
 35                   40                   45  
 Met Ala Val Ala Val Leu Lys Gly Gly Gln Ala His Tyr Phe Asn Tyr  
 50                   55                   60  
 Gly Leu Ala Asp Val Ala Thr Gly Ala Lys Val Asn Glu Gln Thr Leu  
 65                   70                   75                   80  
 Phe Glu Ile Gly Ser Val Ser Lys Thr Tyr Thr Ala Thr Leu Gly Ala  
 85                   90                   95  
 Tyr Ala Val Val Lys Gly Gly Phe Lys Leu Asp Asp Gln Val Ser Gly  
 100                   105                   110  
 His Ala Pro Trp Leu Lys Gly Ser Ala Phe Asp Gly Ile Thr Met Ala  
 115                   120                   125  
 Glu Leu Ala Thr Tyr Ser Ala Gly Gly Leu Pro Leu Gln Phe Pro Asp  
 130                   135                   140  
 Glu Val Asp Ser Ser Asp Thr Met Arg Ala Tyr Tyr Arg His Trp Thr  
 145                   150                   155                   160  
 Pro Pro Tyr Gln Ala Gly Thr Gln Arg Gln Tyr Ser Asn Pro Ser Ile  
 165                   170                   175  
 Gly Leu Phe Gly His Leu Ala Ala Ser Ser Leu Gln Gln Pro Phe Ser  
 180                   185                   190  
 Thr Leu Met Glu Gln Thr Leu Leu Pro Ala Leu Gly Leu Glu His Thr  
 195                   200                   205  
 Tyr Leu Gln Val Pro Glu Ala Ala Met Ala Arg Tyr Ala Phe Gly Tyr  
 210                   215                   220  
 Ser Lys Glu Asp Lys Pro Ile Arg Val Asn Pro Gly Met Leu Ala Asp  
 225                   230                   235                   240  
 Glu Ala Tyr Gly Ile Lys Thr Gly Ser Ala Asp Leu Leu Ala Phe Val  
 245                   250                   255  
 Lys Ala Asn Ile Ser Gly Val Asp Asp Lys Ala Leu Gln Gln Ala Ile  
 260                   265                   270  
 Ala Leu Thr His Thr Gly Phe Tyr Arg Ile Gly Glu Met Ser Gln Gly  
 275                   280                   285

## 23623-7060 Seq Listing

Leu Gly Trp Glu Ser Tyr Ala Tyr Pro Val Ser Glu Gln Thr Leu Leu  
 290 295 300  
 Ala Gly Asn Ser Pro Ala Val Ser Leu Lys Ala Asn Pro Val Thr Lys  
 305 310 315 320  
 Phe Glu Thr Pro Ala Ala Pro Gly Ala Met Arg Leu Tyr Asn Lys Thr  
 325 330 335  
 Gly Ser Thr Gly Gly Phe Gly Ala Tyr Val Ala Phe Val Pro Ala Lys  
 340 345 350  
 Gly Ile Gly Ile Val Met Leu Ala Asn Arg Asn Tyr Pro Ile Glu Ala  
 355 360 365  
 Arg Val Ser Ala Ala His Ala Ile Leu Ser Gln Leu Ala Pro  
 370 375 380

&lt;210&gt; 4

&lt;211&gt; 381

&lt;212&gt; PRT

&lt;213&gt; Enterobacter cloacae

&lt;220&gt;

&lt;223&gt; AmpC protein

&lt;400&gt; 4

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 1 5 10 15  
 Ser Ala Leu Ala Thr Pro Val Ser Glu Lys Gln Leu Ala Glu Val Val  
 20 25 30  
 Ala Asn Thr Ile Thr Pro Leu Met Lys Ala Gln Ser Val Pro Gly Met  
 35 40 45  
 Ala Val Ala Val Ile Tyr Gln Gly Lys Pro His Tyr Tyr Thr Phe Gly  
 50 55 60  
 Lys Ala Asp Ile Ala Ala Asn Lys Pro Val Thr Pro Gln Thr Leu Phe  
 65 70 75 80  
 Glu Leu Gly Ser Ile Ser Lys Thr Phe Thr Gly Val Leu Gly Gly Asp  
 85 90 95  
 Ala Ile Ala Arg Gly Glu Ile Ser Leu Asp Asp Ala Val Thr Arg Tyr  
 100 105 110  
 Trp Pro Gln Leu Thr Gly Lys Gln Trp Gln Gly Ile Arg Met Leu Asp  
 115 120 125  
 Leu Ala Thr Tyr Thr Ala Gly Gly Leu Pro Leu Gln Val Pro Asp Glu  
 130 135 140  
 Val Thr Asp Asn Ala Ser Leu Leu Arg Phe Tyr Gln Asn Trp Gln Pro  
 145 150 155 160  
 Gln Trp Lys Pro Gly Thr Thr Arg Leu Tyr Ala Asn Ala Ser Ile Gly  
 165 170 175  
 Leu Phe Gly Ala Leu Ala Val Lys Pro Ser Gly Met Pro Tyr Glu Gln  
 180 185 190  
 Ala Met Thr Thr Arg Val Leu Lys Pro Leu Lys Leu Asp His Thr Trp  
 195 200 205  
 Ile Asn Val Pro Lys Ala Glu Glu Ala His Tyr Ala Trp Gly Tyr Arg  
 210 215 220  
 Asp Gly Lys Ala Val Arg Val Ser Pro Gly Met Leu Asp Ala Gln Ala  
 225 230 235 240  
 Tyr Gly Val Lys Thr Asn Val Gln Asp Met Ala Asn Trp Val Met Ala  
 245 250 255  
 Asn Met Ala Pro Glu Asn Val Ala Asp Ala Ser Leu Lys Gln Gly Ile  
 260 265 270  
 Ala Leu Ala Gln Ser Arg Tyr Trp Arg Ile Gly Ser Met Tyr Gln Gly  
 275 280 285  
 Leu Gly Trp Glu Met Leu Asn Trp Pro Val Glu Ala Asn Thr Val Val  
 290 295 300  
 Glu Gly Ser Asp Ser Lys Val Ala Leu Ala Pro Leu Pro Val Ala Glu  
 305 310 315 320

## 23623-7060 Seq Listing

Val Asn Pro Pro Ala Pro Pro Val Lys Ala Ser Trp Val His Lys Thr  
 325 330 335  
 Gly Ser Thr Gly Gly Phe Gly Ser Tyr Val Ala Phe Ile Pro Glu Lys  
 340 345 350  
 Gln Ile Gly Ile Val Met Leu Ala Asn Thr Ser Tyr Pro Asn Pro Ala  
 355 360 365  
 Arg Val Glu Ala Ala Tyr His Ile Leu Glu Ala Leu Gln  
 370 375 380

&lt;210&gt; 5

&lt;211&gt; 381

&lt;212&gt; PRT

&lt;213&gt; Escherichia coli

&lt;220&gt;

&lt;223&gt; AmpC protein

&lt;400&gt; 5

Met Met Lys Lys Ser Leu Cys Cys Ala Leu Leu Leu Thr Ala Ser Phe  
 1 5 10 15  
 Ser Thr Phe Ala Ala Ala Lys Thr Glu Gln Gln Ile Ala Asp Ile Val  
 20 25 30  
 Asn Arg Thr Ile Thr Pro Leu Met Gln Glu Gln Ala Ile Pro Gly Met  
 35 40 45  
 Ala Val Ala Val Ile Tyr Gln Gly Lys Pro Tyr Tyr Phe Thr Trp Gly  
 50 55 60  
 Lys Ala Asp Ile Ala Asn Asn His Pro Val Thr Gln Gln Thr Leu Phe  
 65 70 75 80  
 Glu Leu Gly Ser Val Ser Lys Thr Phe Asn Gly Val Leu Gly Asp  
 85 90 95  
 Ala Ile Ala Arg Gly Glu Ile Lys Leu Ser Asp Pro Val Thr Lys Tyr  
 100 105 110  
 Trp Pro Glu Leu Thr Gly Lys Gln Trp Gln Gly Ile Arg Leu Leu His  
 115 120 125  
 Leu Ala Thr Tyr Thr Ala Gly Gly Leu Pro Leu Gln Ile Pro Asp Asp  
 130 135 140  
 Val Arg Asp Lys Ala Ala Leu Leu His Phe Tyr Gln Asn Trp Gln Pro  
 145 150 155 160  
 Gln Trp Thr Pro Gly Ala Lys Arg Leu Tyr Ala Asn Ser Ser Ile Gly  
 165 170 175  
 Leu Phe Gly Glu Leu Ala Val Lys Pro Ser Gly Met Ser Tyr Glu Glu  
 180 185 190  
 Ala Met Thr Arg Arg Val Leu Gln Pro Leu Lys Leu Ala His Thr Trp  
 195 200 205  
 Ile Thr Val Pro Gln Asn Glu Gln Lys Asp Tyr Ala Trp Gly Tyr Arg  
 210 215 220  
 Glu Gly Lys Pro Val His Val Ser Pro Gly Gln Leu Asp Ala Glu Ala  
 225 230 235 240  
 Tyr Gly Val Lys Ser Ser Val Ile Asp Met Ala Arg Trp Val Gln Ala  
 245 250 255  
 Asn Met Asp Ala Ser His Val Gln Glu Lys Thr Leu Gln Gln Gly Ile  
 260 265 270  
 Ala Leu Ala Gln Ser Arg Tyr Trp Arg Ile Gly Asp Met Tyr Gln Gly  
 275 280 285  
 Leu Gly Trp Glu Met Leu Asn Trp Pro Leu Lys Ala Asp Ser Ile Ile  
 290 295 300  
 Asn Gly Ser Asp Ser Lys Val Ala Leu Ala Ala Leu Pro Ala Val Glu  
 305 310 315 320  
 Val Asn Pro Pro Ala Pro Ala Val Lys Ala Ser Trp Val His Lys Thr  
 325 330 335  
 Gly Ser Thr Gly Gly Phe Gly Ser Tyr Val Ala Phe Val Pro Glu Lys  
 340 345 350

## 23623-7060 Seq Listing

Asn	Leu	Gly	Ile	Val	Met	Leu	Ala	Asn	Lys	Ser	Tyr	Pro	Asn	Pro	Val
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Arg	Val	Glu	Ala	Ala	Trp	Arg	Ile	Leu	Glu	Lys	Leu	Gln			
370					375				380						

<210> 6  
<211> 390  
<212> PRT  
<213> Ochrobactrum anthropi

<220>  
<223> AmpC protein

<400> 6																
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					20			25			30					
Asp	Leu	Arg	Arg	Ile	Val	Asp	Glu	Thr	Val	Arg	Pro	Leu	Met	Ala	Glu	
					35			40			45					
Gln	Lys	Ile	Pro	Gly	Met	Ala	Val	Ala	Ile	Thr	Ile	Asp	Gly	Lys	Ser	
					50			55			60					
His	Phe	Phe	Gly	Tyr	Gly	Val	Ala	Ser	Lys	Glu	Ser	Gly	Gln	Lys	Val	
					65			70			75			80		
Thr	Glu	Asp	Thr	Ile	Phe	Glu	Ile	Gly	Ser	Val	Ser	Lys	Thr	Phe	Thr	
					85			90			95					
Ala	Met	Leu	Gly	Gly	Tyr	Gly	Leu	Ala	Thr	Gly	Ala	Phe	Ser	Leu	Ser	
					100			105			110					
Asp	Pro	Ala	Thr	Lys	Trp	Ala	Pro	Glu	Leu	Ala	Gly	Ser	Ser	Phe	Asp	
					115			120			125					
Lys	Ile	Thr	Met	Leu	Asp	Leu	Gly	Thr	Tyr	Thr	Pro	Gly	Gly	Leu	Pro	
					130			135			140					
Leu	Gln	Phe	Pro	Asp	Ala	Val	Thr	Asp	Asp	Ser	Ser	Met	Leu	Ala	Tyr	
					145			150			155			160		
Phe	Lys	Asn	Trp	Lys	Pro	Asp	Tyr	Pro	Ala	Gly	Thr	Gln	Arg	Arg	Tyr	
					165			170			175					
Ser	Asn	Pro	Ser	Ile	Gly	Leu	Phe	Gly	Tyr	Leu	Ala	Ala	Arg	Ser	Met	
					180			185			190					
Asp	Lys	Pro	Phe	Asp	Val	Leu	Met	Glu	Gln	Lys	Leu	Leu	Pro	Ala	Phe	
					195			200			205					
Gly	Leu	Lys	Asn	Thr	Phe	Ile	Asn	Val	Pro	Glu	Ser	Gln	Met	Lys	Asn	
					210			215			220					
Tyr	Ala	Tyr	Gly	Tyr	Ser	Lys	Ala	Asn	Lys	Pro	Ile	Arg	Val	Ser	Gly	
					225			230			235			240		
Gly	Ala	Leu	Asp	Ala	Gln	Ala	Tyr	Gly	Ile	Lys	Thr	Thr	Ala	Leu	Asp	
					245			250			255					
Leu	Ala	Arg	Phe	Val	Glu	Leu	Asn	Ile	Asp	Ser	Ser	Ser	Leu	Glu	Leu	
					260			265			270					
Asp	Phe	Gln	Lys	Ala	Val	Ala	Ala	Thr	His	Thr	Gly	Tyr	Tyr	His	Val	
					275			280			285					
Gly	Ala	Asn	Asn	Gln	Gly	Leu	Gly	Trp	Glu	Phe	Tyr	Asn	Tyr	Pro	Thr	
					290			295			300					
Ala	Leu	Lys	Thr	Leu	Leu	Ala	Gly	Asn	Ser	Ser	Asp	Met	Ala	Leu	Lys	
					305			310			315			320		
Ser	His	Lys	Ile	Glu	Lys	Phe	Asp	Thr	Pro	Arg	Gln	Pro	Ser	Ala	Asp	
					325			330			335					
Val	Trp	Leu	Asn	Lys	Thr	Gly	Ser	Thr	Asn	Gly	Phe	Gly	Ala	Tyr	Ala	
					340			345			350					
Ala	Phe	Ile	Pro	Ala	Lys	Lys	Thr	Gly	Ile	Val	Leu	Leu	Ala	Asn	Arg	
					355			360			365					
Asn	Tyr	Pro	Ile	Asp	Glu	Arg	Ile	Lys	Ala	Ala	Tyr	Arg	Ile	Leu	Gln	
					370			375			380					

## 23623-7060 Seq Listing

Ala Leu Asp Asn Lys Gln  
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<210> 7  
<211> 397  
<212> PRT  
<213> Pseudomonas aeruginosa

<220>  
<223> AmpC protein

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20 25 30  
Arg Leu Lys Ala Leu Val Asp Ala Ala Val Gln Pro Val Met Lys Ala  
35 40 45  
Asn Asp Ile Pro Gly Leu Ala Val Ala Ile Ser Leu Lys Gly Glu Pro  
50 55 60  
His Tyr Phe Ser Tyr Gly Leu Ala Ser Lys Glu Asp Gly Arg Arg Val  
65 70 75 80  
Thr Pro Glu Thr Leu Phe Glu Ile Gly Ser Val Ser Lys Thr Phe Thr  
85 90 95  
Ala Thr Leu Ala Gly Tyr Ala Leu Thr Gln Asp Lys Met Arg Leu Asp  
100 105 110  
Asp Arg Ala Ser Gln His Trp Pro Ala Leu Gln Gly Ser Arg Phe Asp  
115 120 125  
Gly Ile Ser Leu Leu Asp Leu Ala Thr Tyr Thr Ala Gly Gly Leu Pro  
130 135 140  
Leu Gln Phe Pro Asp Ser Val Gln Lys Asp Gln Ala Gln Ile Arg Asp  
145 150 155 160  
Tyr Tyr Arg Gln Trp Gln Pro Thr Tyr Ala Pro Gly Ser Gln Arg Leu  
165 170 175  
Tyr Ser Asn Pro Ser Ile Gly Leu Phe Gly Tyr Leu Ala Ala Arg Ser  
180 185 190  
Leu Gly Gln Pro Phe Glu Arg Leu Met Glu Gln Gln Val Phe Pro Ala  
195 200 205  
Leu Gly Leu Glu Gln Thr His Leu Asp Val Pro Glu Ala Ala Leu Ala  
210 215 220  
Gln Tyr Ala Gln Gly Tyr Gly Lys Asp Asp Arg Pro Leu Arg Val Gly  
225 230 235 240  
Pro Gly Pro Leu Asp Ala Glu Gly Tyr Val Lys Thr Ser Ala Ala  
245 250 255  
Asp Leu Leu Arg Phe Val Asp Ala Asn Leu His Pro Glu Arg Leu Asp  
260 265 270  
Arg Pro Trp Ala Gln Ala Leu Asp Ala Thr His Arg Gly Tyr Tyr Lys  
275 280 285  
Val Gly Asp Met Thr Gln Gly Leu Gly Trp Glu Ala Tyr Asp Trp Pro  
290 295 300  
Ile Ser Leu Lys Arg Leu Gln Ala Gly Asn Ser Thr Pro Met Ala Leu  
305 310 315 320  
Gln Pro His Arg Ile Ala Arg Leu Pro Ala Pro Gln Ala Leu Glu Gly  
325 330 335  
Gln Arg Leu Leu Asn Lys Thr Gly Ser Thr Asn Gly Phe Gly Ala Tyr  
340 345 350  
Val Ala Phe Val Pro Gly Arg Asp Leu Gly Leu Val Ile Leu Ala Asn  
355 360 365  
Arg Asn Tyr Pro Asn Ala Glu Arg Val Lys Ile Ala Tyr Ala Ile Leu  
370 375 380  
Ser Gly Leu Glu Gln Gln Gly Lys Val Pro Leu Lys Ala  
385 390 395

## 23623-7060 Seq Listing

<210> 8  
<211> 379  
<212> PRT  
<213> *Salmonella enteriditis*

<220>  
<223> AmpC protein

<400> 8  
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20 25 30  
Ser Thr Ile Lys Pro Leu Met Ala Gln Gln Asp Ile Pro Gly Met Ala  
35 40 45  
Val Ala Val Ser Val Lys Gly Lys Pro Tyr Tyr Phe Asn Tyr Gly Phe  
50 55 60  
Ala Asp Ile Gln Ala Lys Gln Pro Val Thr Glu Asn Thr Leu Phe Glu  
65 70 75 80  
Leu Gly Ser Val Ser Lys Thr Phe Thr Gly Val Leu Gly Ala Val Ser  
85 90 95  
Val Ala Lys Lys Glu Met Ala Leu Asn Asp Pro Ala Ala Lys Tyr Gln  
100 105 110  
Pro Glu Leu Ala Leu Pro Gln Trp Lys Gly Ile Thr Leu Leu Asp Leu  
115 120 125  
Ala Thr Tyr Thr Ala Gly Gly Leu Pro Leu Gln Val Pro Asp Ala Val  
130 135 140  
Lys Ser Arg Ala Asp Leu Leu Asn Phe Tyr Gln Gln Trp Gln Pro Ser  
145 150 155 160  
Arg Lys Pro Gly Asp Met Arg Leu Tyr Ala Asn Ser Ser Ile Gly Leu  
165 170 175  
Phe Gly Ala Leu Thr Ala Asn Ala Ala Gly Met Pro Tyr Glu Gln Leu  
180 185 190  
Leu Thr Ala Arg Ile Leu Ala Pro Leu Gly Leu Ser His Thr Phe Ile  
195 200 205  
Thr Val Pro Glu Ser Ala Gln Ser Gln Tyr Ala Tyr Gly Tyr Lys Asn  
210 215 220  
Lys Lys Pro Val Arg Val Ser Pro Gly Gln Leu Asp Ala Glu Ser Tyr  
225 230 235 240  
Gly Val Lys Ser Ala Ser Lys Asp Met Leu Arg Trp Ala Glu Met Asn  
245 250 255  
Met Glu Pro Ser Arg Ala Gly Asn Ala Asp Leu Glu Met Ala Met Tyr  
260 265 270  
Leu Ala Gln Thr Arg Tyr Tyr Lys Thr Ala Ala Ile Asn Gln Gly Leu  
275 280 285  
Gly Trp Glu Met Tyr Asp Trp Pro Gln Gln Lys Asp Met Ile Ile Asn  
290 295 300  
Gly Val Thr Asn Glu Val Ala Leu Gln Pro His Pro Val Thr Asp Asn  
305 310 315 320  
Gln Val Gln Pro Tyr Asn Arg Ala Ser Trp Val His Lys Thr Gly Ala  
325 330 335  
Thr Thr Gly Phe Gly Ala Tyr Val Ala Phe Ile Pro Glu Lys Gln Val  
340 345 350  
Ala Ile Val Ile Leu Ala Asn Lys Asn Tyr Pro Asn Thr Glu Arg Val  
355 360 365  
Lys Ala Ala Gln Ala Ile Leu Ser Ala Leu Glu  
370 375

<210> 9  
<211> 388

## 23623-7060 Seq Listing

&lt;212&gt; PRT

&lt;213&gt; Yersinia enterolitica

&lt;220&gt;

&lt;223&gt; AmpC protein

<400> 9  
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 15  
 1 5 10 15  
 Thr Phe Pro Leu Tyr Thr Leu Ala Gln Thr Lys Leu Thr Glu Leu Gln  
 20 25 30  
 Val Ala Thr Ile Val Asn Asn Thr Leu Thr Pro Leu Leu Glu Lys Gln  
 35 40 45  
 Gly Ile Pro Gly Met Ala Val Ala Val Phe Tyr Asp Gly Lys Pro Gln  
 50 55 60  
 Phe Phe Asn Tyr Gly Met Ala Asp Ile Lys Ala Gly Arg Pro Val Thr  
 65 70 75 80  
 Glu Asn Thr Leu Phe Glu Leu Gly Ser Val Ser Lys Thr Phe Thr Gly  
 85 90 95  
 Val Ala Gly Glu Tyr Ala Met Gln Thr Gly Ile Met Asn Leu Asn Asp  
 100 105 110  
 Pro Val Thr Glu Tyr Ala Pro Glu Leu Thr Gly Ser Gln Trp Lys Asp  
 115 120 125  
 Val Lys Met Leu His Leu Ala Thr Tyr Thr Ala Gly Gly Leu Pro Leu  
 130 135 140  
 Gln Leu Pro Asp Ser Val Thr Asp Gln Lys Ser Leu Trp Gln Tyr Tyr  
 145 150 155 160  
 Gln Gln Trp Gln Pro Gln Trp Ala Pro Gly Val Met Arg Asn Tyr Ser  
 165 170 175  
 Asn Ala Ser Ile Gly Leu Phe Gly Ala Leu Ala Val Lys Arg Ser Gln  
 180 185 190  
 Leu Thr Phe Glu Asn Tyr Met Lys Glu Tyr Val Phe Gln Pro Leu Lys  
 195 200 205  
 Leu Asp His Thr Phe Ile Thr Ile Pro Glu Ser Met Gln Ser Asn Tyr  
 210 215 220  
 Ala Trp Gly Tyr Lys Asp Gly Gln Pro Val Arg Val Thr Leu Gly Met  
 225 230 235 240  
 Leu Gly Glu Glu Ala Tyr Gly Val Lys Ser Thr Ser Gln Asp Met Val  
 245 250 255  
 Arg Phe Met Gln Ala Asn Met Asp Pro Glu Ser Leu Pro Ala Gly Asn  
 260 265 270  
 Asp Lys Leu Lys Glu Ala Ile Ile Ala Ser Gln Ser Arg Tyr Phe Gln  
 275 280 285  
 Ala Gly Asp Met Phe Gln Gly Leu Gly Trp Glu Met Tyr Ser Trp Pro  
 290 295 300  
 Ile Asn Pro Gln Gly Val Ile Ala Asp Ser Gly Asn Asp Ile Ala Leu  
 305 310 315 320  
 Lys Pro Arg Lys Val Glu Ala Leu Val Pro Ala Gln Pro Ala Val Arg  
 325 330 335  
 Ala Ser Trp Val His Lys Thr Gly Ala Thr Asn Gly Phe Gly Ala Tyr  
 340 345 350  
 Ile Val Phe Ile Pro Glu Glu Lys Val Gly Ile Val Met Leu Ala Asn  
 355 360 365  
 Lys Asn Tyr Pro Asn Pro Val Arg Val Gln Ala Ala Tyr Asp Ile Leu  
 370 375 380  
 Gln Ala Leu Arg  
 385

&lt;210&gt; 10

&lt;211&gt; 391

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

23623-7060 Seq Listing

<220>  
 <223> Consensus sequence derived from alignment of SEQ  
 ID NOS:3-9  
 <221> VARIANT  
 <222> 1, 2, 8, 9, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23,  
 24, 25, 27, 28, 29, 30, 32, 36, 40, 43, 47, 48, 50, 59,  
 60, 61, 68, 75, 78, 108, 110, 112, 119, 123, 128, 152, 154,  
 155, 160, 168, 170, 174, 187, 199, 202, 203, 207, 217  
 <223> Xaa = Unknown

<221> VARIANT  
 <222> 222, 223, 232, 234, 243, 256, 263, 269, 270, 271, 272, 273,  
 274, 275, 276, 277, 279, 296, 305, 309, 310, 311, 317, 320,  
 324, 326, 329, 330, 332, 333, 335, 337, 338, 350, 363, 377,  
 378, 381, 385, 388, 391  
 <223> Xaa = Unknown

<400> 10  
 Xaa Xaa Met Lys Lys Ser Leu Xaa Xaa Xaa Leu Leu Xaa Xaa Xaa Xaa  
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 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ala Xaa Xaa Xaa Glu Xaa  
 20 25 30  
 Gln Leu Ala Xaa Ile Val Asp Xaa Thr Ile Xaa Pro Leu Met Xaa Xaa  
 35 40 45  
 Gln Xaa Ile Pro Gly Met Ala Val Ala Val Xaa Xaa Xaa Gly Lys Pro  
 50 55 60  
 His Tyr Phe Xaa Tyr Gly Leu Ala Asp Ile Xaa Ala Gly Xaa Pro Val  
 65 70 75 80  
 Thr Glu Gln Thr Leu Phe Glu Leu Gly Ser Val Ser Lys Thr Phe Thr  
 85 90 95  
 Gly Val Leu Gly Gly Tyr Ala Ile Ala Lys Gly Xaa Met Xaa Leu Xaa  
 100 105 110  
 Asp Pro Val Thr Lys Tyr Xaa Pro Glu Leu Xaa Gly Ser Gln Trp Xaa  
 115 120 125  
 Gly Ile Thr Met Leu Asp Leu Ala Thr Tyr Thr Ala Gly Gly Leu Pro  
 130 135 140  
 Leu Gln Val Pro Asp Ala Val Xaa Asp Xaa Xaa Ala Ser Leu Leu Xaa  
 145 150 155 160  
 Tyr Tyr Gln Asn Trp Gln Pro Xaa Trp Xaa Pro Gly Thr Xaa Arg Leu  
 165 170 175  
 Tyr Ser Asn Ala Ser Ile Gly Leu Phe Gly Xaa Leu Ala Ala Lys Ser  
 180 185 190  
 Ser Gly Met Pro Phe Glu Xaa Leu Met Xaa Xaa Arg Val Leu Xaa Pro  
 195 200 205  
 Leu Gly Leu Asp His Thr Phe Ile Xaa Val Pro Glu Ala Xaa Xaa Ala  
 210 215 220  
 Asn Tyr Ala Trp Gly Tyr Lys Xaa Gly Xaa Lys Pro Val Arg Val Ser  
 225 230 235 240  
 Pro Gly Xaa Leu Asp Ala Glu Ala Tyr Gly Val Lys Thr Ser Ser Xaa  
 245 250 255  
 Asp Met Leu Arg Phe Val Xaa Ala Asn Met Asp Pro Xaa Xaa Xaa  
 260 265 270  
 Xaa Xaa Xaa Xaa Xaa Leu Xaa Gln Ala Ile Ala Leu Thr Gln Ser Arg  
 275 280 285  
 Tyr Tyr Arg Ile Gly Asp Met Xaa Gln Gly Leu Gly Trp Glu Met Tyr  
 290 295 300  
 Xaa Trp Pro Ile Xaa Xaa Xaa Thr Leu Ile Ala Gly Xaa Ser Ser Xaa  
 305 310 315 320  
 Val Ala Leu Xaa Pro Xaa Pro Val Xaa Xaa Leu Xaa Xaa Pro Xaa Pro  
 325 330 335  
 Xaa Xaa Lys Ala Ser Trp Val His Lys Thr Gly Ser Thr Xaa Gly Phe  
 340 345 350

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Gly Ala Tyr Val Ala Phe Ile Pro Glu Lys Xaa Ile Gly Ile Val Met  
355 360 365  
Leu Ala Asn Lys Asn Tyr Pro Asn Xaa Xaa Arg Val Xaa Ala Ala Tyr  
370 375 380  
Xaa Ile Leu Xaa Ala Leu Xaa  
385 390